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### Using problem-based learning in natural resources curriculum to promote critical thinking

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## **Using Problem-Based Learning in Natural Resources Curriculum to Promote Critical Thinking**

Mark R. Ryan<sup>1</sup> and Joshua J. Millspaugh<sup>2</sup>

Our workshop will model the use of problem-based learning (PBL) to enhance higher-order thinking skills and promote content retention. After a brief introduction to the process and benefits of PBL, we will guide attendees through a problem case. Our Urban Deer Management case will allow participants to experience firsthand how PBL promotes critical thinking. In delivering the case we will demonstrate how a variety of active learning strategies (e.g., writing-to-learn, collaborative learning, peer-teaching, active lectures, discussion, use of internet resources) can be used within the PBL teaching format. In particular, we will showcase how we apply PBL in our classes and how we use a diversity of short and extended writing and speaking assignments intended for diverse audiences to promote critical thinking. In resolving the case, attendees will be actively engaged in problem identification, review (and peer-teaching) of learning objectives, analysis and evaluation of alternative responses, and selection and justification of a deer management plan. Throughout delivery of the case there will be ample opportunity for questions and discussion of the PBL process and associated techniques.

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